

USAWC STRATEGY RESEARCH PROJECT

DEFINING AND QUANTIFYING GLOBALIZATION

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ABSTRACT

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Globalization is one of the most powerful forces shaping the world; however, there is no widely accepted definition or system of measure for the phenomenon. Since the term is so nebulous and all-inclusive, it is difficult to employ empirical evidence to support hypotheses concerning globalization. This paper discusses the need to better define and quantify globalization in order to provide policy makers a better understanding of the complex phenomenon. The various meanings of globalization, as well as various attempts at quantification are discussed. Although scholars have made initial progress toward defining globalization and developing an effective measurement regime, further study of these fundamental concepts is needed.

DEFINING AND QUANTIFYING GLOBALIZATION

“Globalization” is the neologism of the new millennium. Every interaction from trading capital and goods, to trading personal conversation is influenced by this phenomenon. The term, originally intended to describe an integration of economies, has evolved to become an all-encompassing phrase to characterize any activity or relationship which extends beyond national borders. Although the term is loosely used in virtually every context imaginable, few possess a holistic understanding of the term and few are able to successfully employ empirical evidence to test hypotheses concerning globalization. The use of the term is so nebulous and all-inclusive that it is easy to become confused or overwhelmed by its growing scope and magnitude. This paper discusses the need to better define and quantify globalization in order to better understand the complex phenomenon. It also analyzes current uses of the term as well as attempts at quantification. Currently, several disparities exist in both defining and measuring globalization; these inconsistencies may lie at the foundation of the ongoing “globalization debate.”

Since globalization has become an area of widespread public interest, much effort has been devoted toward understanding both the challenges and opportunities which globalization presents. Ironically, very little effort has been devoted to understanding what globalization is and how it can be measured. Addressing the fundamental questions of how globalization should be defined and quantified may help the world to view globalization through a common lens. Such a common view could be instrumental in understanding and formulating acceptable policies which bring about the desired consequences for the newly integrated world. Even though globalization is about “connectedness,” there seems to be a big disconnect between the fundamental concepts of defining and quantifying globalization, and using this valuable information to make informed decisions.

Defining Globalization

Globalization is purported to have a dramatic impact on life world-wide, and as expected, the concept receives much attention in a variety of settings. Public discourse on the subject is found in a wide range of professional journals, university classrooms, corporate boardrooms, and parliaments. It has awakened activism and social unrest in both the developed and developing parts of the world, and has spurred the involvement of governmental and non-governmental organizations in every policy issue imaginable. Surprisingly, for such a powerful and commonly used term there does not appear to be any consensus on what the term actually means. The Economist has called globalization “the most abused word of the 21st century.”¹ It

has been alleged to further impoverish the poor while elevating the rich, and to be a force for liberation as well as for enslavement. Professor Jagdish Bhagwati, from Columbia University recently published *In Defense of Globalization* where he contends that globalization is the most powerful force for social good in the world today.² Conversely, Amy Chua, a Professor of Law at Yale University and author of *World on Fire* suggests that globalization is terribly problematic for it exaggerates the economic differences between people, and between ethnic groups.³ It seems as though some scholars describe globalization as the world's best medicine, while to others, it is a vile poison. There are also those who remain completely neutral and dispassionate about globalization and view it as nothing more than an extension of the enterprising quest for trade routes and riches which Columbus began more than five centuries ago.

Clearly globalization conjures numerous emotions and means a variety of things to different people. Even the World Bank (regarded as an authority on globalization) states, "Amazingly for so widely used a term, there does not appear to be any precise, widely-agreed definition. Indeed the breadth of meanings attached to it seems to be increasing rather than narrowing over time, taking on cultural, political and other connotations in addition to the economic."⁴ How can policy makers, academics, and business people effectively converse concerning a concept that has no clear meaning?

The lack of an agreed upon and precise meaning for globalization is not because no one has ever "defined" globalization for there are numerous definitions presented in literature. Jan Scholte, the co-director of the Centre for the Study of Globalisation and Regionalisation (CSGR) has determined there are five distinct meanings of globalization presented in current literature.⁵ The term can be used to represent 1) internationalization, 2) liberalization, 3) universalization, 4) westernization or modernization, and 5) deterritorialization.⁶ The wide array of meanings presents an immense challenge to truly understanding the phenomenon and well demonstrates how the concept has evolved to become very broad and imprecise.

The first characterization of globalization, internationalization simply describes cross-border trade or relationships between countries. In this context, globalization may describe the growth in international exchanges and interdependence of economies; through international exchange, national economies are subsumed by a global economy and thus, globalization is achieved. It may also describe the internationalization of governance as in the context of "global public policy" or "global governance of technology." In these cases, any agreements extending across national borders represent globalization. In this context, globalization is not a new concept as it is revealed in a variety of organizations such as in the League of Nations as

well as in the modern day European Union where decisions that were once purely domestic are now made in a complicated process of inter-state bargaining. One must also note, globalization in the form of internationalization may be used to characterize any cross-border activity or agreement and does not necessarily involve the trading of goods or capital.

As often as globalization is employed to represent internationalization in a broad context, there are those who insist the terms are distinctly different. Herman E. Daly of the Global Policy Forum explains, "Internationalization refers to the increasing importance of international trade, international relations, treaties, alliances, etc.... Globalization refers to global economic integration of many formerly national economies into one global economy, mainly by free trade and free capital mobility."⁷ Daley represents one of many scholars who adhere to the thought of globalization as economic liberalization best characterized by the presence of free trade.

For Daley and others, globalization primarily describes liberalization or the process of removing government-imposed restrictions on movements between countries in order to create an open or "borderless" world. The CATO Institute describes globalization as the "ongoing global trend toward the freer flow of trade and investment across borders."⁸ In order to have such investment, barriers must be removed - this removal of barriers is the process of globalization. As transnational corporations exert more power in the global economy, they continuously push for further liberalization; thus these mega-corporations are one of the driving forces of globalization.

Here again, there are those who explicitly contest this meaning of globalization. Elfred Cruz, a professor at the De La Salle University Graduate School of Business states, "Globalization is not trade liberalization. It also does not necessarily mean a universal culture or a global economy...globalization is the result of a process of rapid innovation and technological change which allows the increasing integration of economies around the world and the movement of people, goods, services and ideas across boundaries."⁹ Professor Cruz is focused primarily on technological change, not liberalization as a driver of the process of globalization.

This rapid innovation and technological change when spread throughout the world brings about a new connectedness and describes a third view of globalization which is synonymous with universalization. In this context, "global" is simply used to represent the notion of being world-wide or universal. Consequently, globalization is the process of spreading both items and ideas to people across the world. The spread of technology such as Microsoft Windows ® and the World Wide Web are both examples of globalization as represented in the context of universalization.

Although globalization may be used to represent universalization, the reach of globalization is never truly universal and serves to divide the world into what many refer to as “globalized” and “unglobalized” sectors. Much of the western or modern world is often characterized as globalized and therefore gives rise to yet another meaning of globalization, westernization.

When globalization is used to describe westernization or modernization (especially in an Americanized sense), globalization is understood as a process, whereby the social structures of the western world such as capitalism, free markets and industrialism, are spread across the globe and destroy or replace the pre-existing social structures and culture. For example, the spread of fast food, pop music, and gadgetry normally associated with western culture is often termed globalization.

The current tension between Islam and western society is also often attributed to globalization in the sense that it represents westernization. This tension is made readily apparent in Samuel P. Huntington's book, *The Clash of Civilizations* where Huntington suggests that cultural identity will ultimately take precedence over the secular, unifying forces of economic globalization.¹⁰ Another recent work describing the apparent clash between globalization and Islam is entitled, *Jihad vs. McWorld* by Benjamin Barber. Here the author describes a conflict between traditional values, which represent “Jihad,” and the forces of globalization, or “McWorld.”¹¹ In both of these works, globalization is conflated with westernization and is shown to be a force which works against established non-western culture, especially the tenets of Islam.

Globalization as westernization poses a dilemma for many countries who want to be globalized yet not westernized, most notably the People's Republic of China. The Chinese government is attempting to reap the benefits of open markets without the unwanted side effects of westernization. China's current sophisticated and effective internet filtering regime characterizes its concerted attempt to ensure globalization does not lead to westernization .

The last view of globalization attempts to redefine the conventional concept of “territory” into something that is no longer based on geography. In this context globalization is the deterritorialization of the world such that space is no longer mapped in terms of physical geography to include distances and borders. In support of this view, Anthony Giddens defined globalization as, “the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away.”¹² This view of globalization suggests that regions in the world interact in a way such that the earth's geography is no longer an impediment to communication and relationships; the new set of

interactions transcends previous geographical boundaries. The title of Thomas Friedman's recent book describing globalization, *The World is Flat* encapsulates the idea that globalization is a phenomenon which rises above physical geography and thus "flattens" the world through a process which evens out capabilities and expands markets.¹³ The numerous overseas call centers which assist thousands of Americans in locating lost luggage and trouble-shooting electronic gadgets, overseas doctors reviewing x-rays and laboratory results, and inexpensive overseas engineers optimizing designs for American corporations are all indicative of deterritorialization.

The various interpretations of globalization are broad, imprecise and overlapping allowing for much confusion and debate on the subject. No one interpretation may be deemed right or wrong for clearly each of the meanings is found to be in frequent use. Furthermore, the notion that globalization represents internationalization, liberalization, universalization, westernization or deterritorialization may be applied to economic, political, social, technological and cultural issues and further confound any attempt to gain consensus on the meaning of the term.

Even after rigorous study concerning the various definitions of globalization, one may merely conclude there is no consensus on the meaning of the term. One could also argue that the more general the meaning, the better suited it is to explain the varied phenomena that fall under the acknowledged umbrella of globalization. At the same time however, a precise and consistent definition is necessary to lend focus and coherence to the term and to prevent its misuse. Although the world may never agree on the proper usage or definition of globalization, a universally accepted measure of globalization may establish a common ground between all five interpretations and lend the subject to empirical study.

A Case for Quantification

Although the world does not agree on the precise definition of globalization, there seems to be a consensus that it is real and is affecting the world in numerous ways. This cause and effect relationship is often articulated without empirical evidence leaving the correlation between globalization and its effect upon society open to dispute. When a policy maker or scholar wishes to empirically support the numerous effects of globalization with scientific evidence, one or more indicators are frequently invoked.

The multidimensional phenomenon of globalization is not cataloged in any database; instead of referencing the measure of globalization when making a point, an author must choose any number of hundreds of variables that represent an aspect of globalization. Of the numerous works that use empirical data to support hypotheses concerning globalization, it is

difficult to find any two articles which reference the same data. Even more significant, the great majority of scholarly works concerning globalization take one of two approaches: either empirical data is totally absent from the discussion as in the RAND issue paper, "Globalization's Security Implications"¹⁴ or empirical data is overflowing in the paper such as in the International Monetary Fund (IMF) issue paper, "Globalization: Threat or Opportunity."¹⁵ It seems the quantification of globalization is an issue which is completely avoided, or painstakingly attacked. A widely accepted measure (or measures) of globalization could prove to be very useful when discussing its effects.

The naysayers have already proclaimed that measuring globalization is impossible, yet history demonstrates time and time again that human beings have an aptitude for measuring abstract and nebulous concepts. Educators rely on numerous quantitative assessment tools to measure and improve the abstract concept of learning, while military services rely on various rubrics to categorize the preparedness of military forces. Although attempting to quantify abstract concepts is often accompanied with criticism suggesting that such quantitative simplifications misrepresent or conceal the complexity surrounding issues, more often, quantitative assessments are welcomed as powerful tools to represent outwardly complex phenomena.

The renowned British physicist, Lord William Kelvin stated, "When you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind."¹⁶ He further stated, "If you can not measure it, you can not improve it."¹⁷ Although one might think Kelvin's obsession with measurement is too shallow to apply to a concept as complex as globalization, his desire to truly "know" something in a quantitative aspect led to tremendous advances in understanding the physical world. So too, with a desire to quantitatively "know" or measure globalization, one can gain a better understanding of the phenomenon. Gaining a consensus on measuring or quantifying globalization may prove to be more useful than actually defining globalization. An established measure could tell policy makers and scholars what nations are most (or least) global and indicate where globalization is accelerating or lagging in the world. A measurement regime could also serve to stabilize the meaning of globalization and prevent the term from morphing even further. The ongoing globalization debate would be much less ambiguous and contentious with an established measure of globalization.

Establishing a Measurement Regime

Is it possible to measure globalization before it is defined? Before one attempts to answer this question, one should think about a common quantitative measurement that most people intuitively sense, temperature. For thousands of years, man was not able to measure “hotness,” for even though the earth had a certain “hotness” or “coldness,” the concept of temperature was not yet developed. The question of, “How hot is it?” is extremely difficult to answer without the man-made metric of temperature. It was not until the early part of the seventeenth century that man finally developed a crude method to quantify “hotness.”¹⁸ The systems and units of measurement would be developed by several practical and creative men over many years and eventually give rise to the units of Fahrenheit and Celsius. Likewise with globalization, until the world agrees upon one or several techniques and units for measurement, the phenomenon is likely to be “sensed” but never effectively described. This analogy is not to insinuate that globalization can be or should be measured with a metric suitable for characterizing physical matter, but serves to demonstrate that one needs deliberate study, acceptance, and widespread use of a metric before one can effectively dialogue concerning the concept it measures.

In recent years, initial attempts have been made to numerically measure globalization; yet none have been widely accepted by the international community. As with the various meanings of globalization, the proposed measures should not be judged as “right” or “wrong” but studied, questioned, and refined until the measures are more widely understood, accepted, and eventually applied. Measurement regimes are typically not discovered, yet evolve after much deliberate study!

The prospect of trying to measure globalization is just beginning to receive attention and accordingly there is a very limited amount of literature addressing the subject. Initial approaches range from simple measures of international trade, to catalogs of several hundred development indicators. Recently, several organizations have recognized the burdensome nature of too many indicators and have attempted to compile various data to form a composite ranking system. The merits of current methods of quantification are discussed below.

The Traditional Measure: International Trade

Since the term, globalization was initially employed to suggest an integration of economies, it would naturally follow that economic indicators would contribute toward its quantification. Conveniently, much of the world subscribes to the economic data published by the IMF and the World Trade Organization (WTO). Both of these international organizations are regarded as reliable clearing houses for economic statistics. Whether or not one agrees with

their often controversial decisions, one cannot contest that both organizations perform high-quality work in the area of economic surveillance and data compilation. As such, both organizations would be capable of quantifying globalization only in the sense that they are able to quantify international trade.

Currently, the IMF publishes many economic statistics and forecasts in its semi-annual *World Economic Outlook*.¹⁹ It also maintains an interactive database which provides numerous statistics regarding the economies of 184 nations.²⁰ The database provides statistics ranging from export and import data, to consumer price indices. The data are routinely updated, compiled and discussed in various IMF publications. As the steward of a vast amount of economic information, the IMF is frequently referenced when discussing globalization in the context of international trade.

Similarly, the WTO, the only international organization with the responsibility to oversee global rules of trade, is inextricably linked to a measure of globalization in the context of measuring trade liberalization. The WTO publishes several annual publications cataloging trade related change in the world. These publications include the *World Trade Report*, outlining the WTO's position on global trade policies, as well as *International Trade Statistics*.²¹ The WTO is capable of measuring globalization in the sense of economic liberalization.

Surely much of the vast amounts of data published by the IMF and WTO are economic indicators of globalization in the context of economic internationalization or liberalization. However, most scholars are not willing to measure globalization purely in the context of economic internationalization or open trade. Perhaps these data can somehow help contribute to a more comprehensive measure of globalization which is currently eluding the world?

Measuring More than Economics

Since much of the world agrees that globalization is characterized by more than economics and open trade, several institutions have incorporated additional indicators in their attempts to quantify globalization; the Global Policy Forum is one such institution. It contends, "It is impossible to measure a nebulous concept like globalization precisely, but increasing interconnectedness is readily apparent in a host of economic, demographic, technological, and cultural changes."²² On the Forum's "Measuring Globalization" web page, one may view seventeen graphs and tables categorized under the headings of: Demographic Change, Technology, and Cultural Change.²³ Under each of these categories, one may link to seemingly random indicators of globalization. For example, under Cultural Change, the growth in the number of McDonald's restaurants in various regions of the world between the years 1991 and

1996 is presented. Equally obscure, under Technology, the change in cell phone usage by region between 1990 and 2000 is presented. The data is out dated and catalogs seemingly random indicators by world region. Most strikingly, of all the different data presented which claim to measure globalization, not one indicator is a measure of international trade. Although globalization is not exclusively international trade, most scholars would agree that it plays a significant role in the phenomenon of globalization.

Although one might dismiss the Global Policy Forum as a small and obscure non-profit organization (albeit with consultative status at the United Nations), it represents one of many international groups of concerned individuals searching for a way to measure globalization, searching for a way to quantify connectedness without purely focusing on economics. Instead of criticizing the Global Policy Forum for perhaps missing the mark on comprehensively and accurately measuring globalization, the group should be praised for recognizing the utility of attempting to succinctly demonstrate a far-reaching measure globalization in a series of tables and graphs.

Several of the seventeen indicators presented by the Global Policy Forum are taken from various United Nations (UN) divisions. For example, the United Nations Population Division publishes the data on "The Number of Migrants Residing in Major Regions" and the United Nations Development Programme (UNDP) publishes "The Number of Internet Hosts by Region" in its annual Human Development Report. Clearly the UN appears to keep record of several statistics related to globalization. Perhaps this global institution may be a source to find a more appropriate measure or quantification of globalization?

Measuring Everything Measurable

The UN is one of several organizations which collect and publish very comprehensive sets of global data beyond economic data. It publishes data related to the economic, social, cultural and humanitarian issues facing the world in its annual *United Nations Statistical Yearbook*.²⁴ Similarly, the World Bank annually publishes the *World Development Indicators*.²⁵ Both of these publications provide numerous data which go far beyond measuring economic indicators.

The purpose of the UN, as set forth in its charter, is "to cooperate in solving international economic, social, cultural and humanitarian problems."²⁶ One might infer they are charged with solving the problems brought about by globalization. Due to the vast amount of data collected by the UN in support of its charter, it maintains its own Statistics Division responsible for not only the collection, processing and dissemination of statistical information, but for the standardization of methods and definitions. The statistics division publishes the *United Nations Statistical*

Yearbook, an annual compilation of a wide range of economic, social and environmental statistics on over 200 countries and areas of the world.²⁷ The yearbook is compiled from more than 35 sources including UN agencies and other international, national and specialized organizations. The publication boasts a plethora of data on “agriculture, forestry and fishing; balance of payments; culture and communication; development assistance; education; energy; environment; finance; nutrition; industrial production; intellectual property; international merchandise trade; international tourism; labor force; manufacturing; national accounts; population; prices; research and development; transport; and wages” but it does not even mention the thought of globalization.²⁸ It seems the UN prefers to work toward solving the problems of globalization rather than developing a way to compile its numerous statistics into a meaningful measure of globalization. Even though the UN Statistics Division is charged with “standardization of methods and definitions,”²⁹ it does not feel compelled to compile its many hundred measurements into a measure of globalization.

The World Bank, another organization which collects a vast amount of data related to globalization, is working toward a stated goal of halving global poverty by 2015 and is actively involved in measuring progress toward that goal. The World Bank desires to have “solid and credible statistics” that show where it is advancing and where it is falling behind.³⁰ As such, it publishes the annual *World Development Indicators (WDI)*. The *WDI* affords readers more than 800 indicators organized in six sections: World View, People, Environment, Economy, States and Markets, and Global Links.³¹ In each section a plethora of information is presented. Surely many indicators of globalization are contained within the more than 800 indicators cataloged by the *WDI*.

With the UN's *Statistical Yearbook*, and the World Bank's *WDI*, there is a multitude of statistics which is generally free, digital, and willingly shared. Often these statistics are invoked to quantify non-economic aspects of globalization, yet the two publications provide more than one thousand indicators. This enormous amount of data, accompanied by the economic data published by the IMF and the WTO are very informative, yet terribly burdensome. It seems no national or international organization claims to measure globalization, but rather the organizations prefer to measure almost everything remotely associated with globalization.

Given the availability of a multitude of data, and the ease of data compilation, the computation of a composite value representing globalization would be trouble-free, if only one knew what data to compile. The World Markets Research Centre (WMRC), the A.T Kearney Institute, and the International Centre for Integrative Studies have all recently suggested composite indices which attempt to harness a measure of globalization.

Composite Rankings

One of the first concerted attempts to measure globalization was developed by the WMRC. The WMRC is a London based firm which provides "business-critical information" for executives in multinational corporations, financial institutions and governments across the world.³² In 2001, the WMRC calculated the "G-Index" for 185 countries as a composite measure of globalization.³³ The G-index attempted to measure "the depth, breath and richness of the broadest range of economic links binding an economy to the rest of the world." Even though the G-index claimed to measure "globalization", it focused almost exclusively (90%) on measuring economics, with 5 percent of the index attributed to telephone traffic, and 5 percent contributed to internet hosts. In determining the G-Index, the economic portion of the calculation leaned heavily toward exports. Consequently, the small trading nations with huge trading volumes in relation to their GDP appeared to be most globalized. Most significantly, even though the WMRC defined globalization largely in terms of economic internationalization and economic liberalization, it was able to calculate a composite score which incorporated non-economic factors. The WMRC's initial publication of the G-index was accompanied with a critical analysis of the results and led to very insightful observations regarding every region of the world.

Regrettably, since the WMRC first published the G-index in 2001, the G-index does not appear to have been updated or modified. The index, although a noble first effort to quantify a composite measure of globalization, appears to be a short-lived attempt with an overly economic focus.

Also in 2001, the A.T. Kearney Institute, a leading global management consulting firm, published a composite globalization index, the A.T. Kearney/Foreign Policy Magazine Globalization Index™ (ATKFPGI).³⁴ This index initially presented a composite globalization score for 50 countries, and later increased the number of countries to 62. The index has been published annually since 2001. The 62 countries currently selected account for 96 percent of the world's gross domestic product, and 85 percent of the world's population.³⁵ The index provides a total measure of globalization based on measures in four separate categories: economic integration, technological connectivity, personal contact, and political engagement. The data in each of the categories is obtained from organizations such as the World Bank, the IMF, the UN, and the International Telecommunications Union.

Like the G-Index, the attractiveness of the ATKFPGI is that it incorporates data which represent more than simple measures of economic development. However, the ATKFPGI is broader than the G-Index and is also updated annually. The ATKFPGI is very transparent with

its methodology, supporting data, and results published on the A.T. Kearney web site.³⁶ The index is also published and discussed annually in Foreign Policy Magazine. It is referenced throughout government, business, and academia and currently receives 143,000 “hits” in Google internet search results which include references from a variety of think tanks and national governments.

The index lends itself well to study as Foreign Policy Magazine illustrates in its correlation of the ATKFPGI to the Freedom House’s ratings of freedom and corruption.³⁷ Up or down movement in the index from year to year is also easy to discern as each annual publication highlights movement within the rankings. For example, in the most recent publication of the index, the United States moved from its ranking of seventh to fourth.³⁸

Although the A.T. Kearney institute has boldly postulated a measure of globalization which appears to be very popular, the proposed index has many critics. Perhaps one of the biggest criticisms of the ATKFPGI ranking system is that it does not correct for country size. Ben Lockwood of the Centre for the Study of Globalisation and Regionalisation states the ATKFPGI index is flawed in many ways and is only useful for measuring geographical differences between countries.³⁹ Lockwood suggests using the same data as the ATKFPGI analysis, but adjusting the data to account for geographical characteristics of the country. He demonstrates considerable different results when alternative weighting and measurement rules are applied to the data.⁴⁰

Similarly, in “Rethinking Globalization” Pim Martens (of the International Center for Integrative Studies based in The Netherlands) suggests improvements to the ATKFPGI to produce a better measure of globalization.⁴¹ Martens acknowledges the five meanings of globalization suggested by Scholte; internationalization, liberalization, universalization, westernization or modernization, and deterritorialization and points out that even though the ATKFPGI attempts to effect a broad measure of globalization, it is overly biased toward measuring economic internationalization and liberalization. He seeks to develop a measurement regime which addresses to the greatest extent possible all of the definitions.

In 2004 Martens suggests improving the ATKFPGI with the “Modified Globalization Index” (MGI).⁴² He suggests using much of the same data as the A.T. Kearney Institute, but weighting many of the variables differently. Martens focuses on effecting improvements in three areas. First, since the weighting of the variables is subjective, he attempts to ensure the outcome of the study is not overly sensitive to small variations in the subjective weightings. Second, he attempts to improve data reliability; any extreme or missing data could have large effects on the outcome and attention is given to correct or improve unreliable data. Third, Martens points out

the composite index should help one to understand globalization better than when looking at anyone one of its components. He does not want to simply create a more complicated system for measuring international trade. In order to ensure the composite index is “value added,” he attempts to make sure that the components of the index are not highly correlated and the final result of the index is not highly correlated with any single component.

Martens calculates the MGI for 117 countries using data grouped into the major categories of global politics, military involvement, global trade, global finance, people on the move, technology, and the environment. In order to remove the effect of purely geological factors, Martens employs a regression algorithm accounting for each country’s population as well as a dummy variable measuring whether or not a country has a sea coast. Incorporating these simple mathematical tools, Martens is intending to decouple the MGI from purely geographical indicators.

To illustrate the differences in the various composite ranking systems, selected results are shown below. In Table 1, the ten most globalized countries based on the G-Index⁴³, the ATKFPGI⁴⁴, and the MGI⁴⁵ are listed. It is most interesting to note that the world’s superpower, the United States is not represented in the top ten in any of the ranking systems. The MGI system ranked the United States at 16th out of 117 nations in 2004, the ATKFPGI ranked the US 12th out of 62 nations in 2002, and the G-Index ranked the US 70th out of 185 nations in 2001.

Rank	MGI (2004)	ATKFPGI (2002)	G-Index (2001)
1	Switzerland	Ireland	Liechtenstein
2	Austria	Switzerland	Singapore
3	Belgium	Singapore	Belgium
4	Netherlands	Netherlands	Ireland
5	United Kingdom	Sweden	United Arab Emirates
6	Sweden	Finland	Switzerland
7	Czech Republic	Canada	Netherlands
8	Germany	Denmark	Cayman Islands
9	Hungary	Austria	Sweden
10	Ireland	United Kingdom	Hong Kong, SAR

TABLE 1

Although the MGI, the ATKFPGI, and the G-Index all attempt to measure globalization, how can one know which measure is “correct”?

Applying Measure of Globalization

As with the many definitions of globalization, the various measures of globalization are likely to co-exist and serve as the subject for debate and criticism. Martens's attempt to improve upon the ATKFPGI is type of scholarly work which must be performed in order to achieve a better understanding of the term. Although he acknowledges the MGI does not justly capture all five definitions of globalization, the careful thought he is giving to the subject of measuring globalization is an essential step in describing the phenomenon.

In recent years, several scholars began to reference the measures of globalization. Even though the ATKFPGI quantification system has received vast criticism, it appears to be the most widely published methodology of measuring globalization and therefore receiving the most reference. Robert Looney of the Center for Contemporary Conflict extensively references the ATKFPGI in "Why Has Globalization Eluded the Middle East?"⁴⁶ In this article Looney states, "When examining globalization, one of the first and most difficult issues is to address an operational definition of the phenomena." He concludes, "Clearly, the lack of a clear, precise definition underlies much of the current arguments and debates overmuch the extent of globalization..."⁴⁷ He also questions "How do we demonstrate that globalization is racing ahead rather than just limping along?"⁴⁸ His apparent frustration is exactly the point of this paper. Looney is an example of one of several analysts who is attempting to draw conclusions concerning globalization without the necessary empirical data available to support the conclusions.

The Global Century, a two volume collection of essays concerning globalization and national security also alludes to the difficulty presented by the nebulous concept.⁴⁹ As one might expect, much attention in the publication is initially given to developing a definition of the term. Typical of every comprehensive publication concerning globalization, it must start at the most rudimentary level, attempting to define globalization and then follow with sets of empirical data to support any scientific conclusions. This void of an accepted definition and measurement regime places national security policy advisors in a less than optimum situation. Scholars and policy makers are slowly recognizing both the utility and necessity for the development of a consensus in this area.

Conclusion

The ability to shape globalization rather than simply react to it requires a better understanding of what it is and how it is changing. It appears that even though the ATKFPGI composite ranking system is getting the most attention as a viable measure for globalization, the

majority of scholarly works do not reference this index. Currently, there is no widely agreed upon definition or system for measuring globalization.

The phenomenon of globalization is acknowledged to be one of the most powerful issues facing the world today. Anthony Giddens, director of the London School of Economics, states the globalization debate “is a debate that shapes what form the century will assume, what society will assume.”⁵⁰ Although no one can stop globalization, there are several ways to influence this tremendous force shaping the world. However, one cannot expect to influence globalization without first understanding what the force is and how it can be quantified.

Globalization is not beyond the comprehension of mankind. It should not be feared or avoided. Since the concept is large and broad, it must be harnessed into a tractable measure, one that represents all that globalization is. At this point in the globalization debate, thousands of books have been written on the subject. There is one simple element which is still missing from the vast amount of literature, an accepted and well developed method of quantification. This single element may be the key to a better understanding of globalization!

Endnotes

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